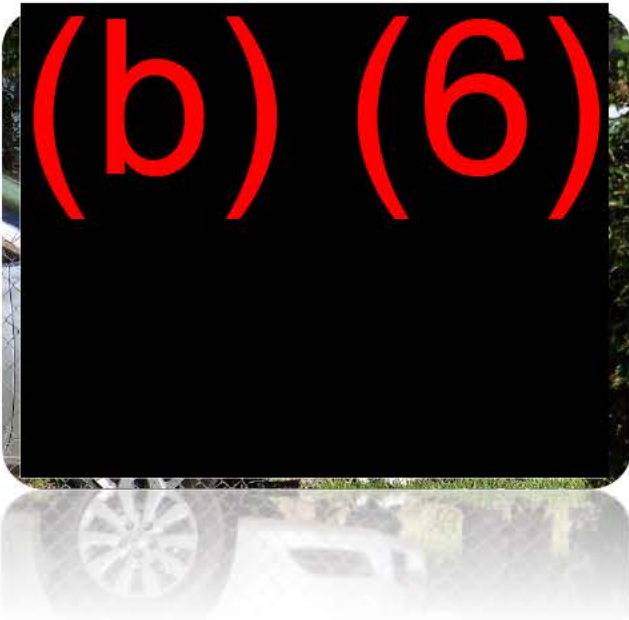


CES Environmental Services Community Concerns

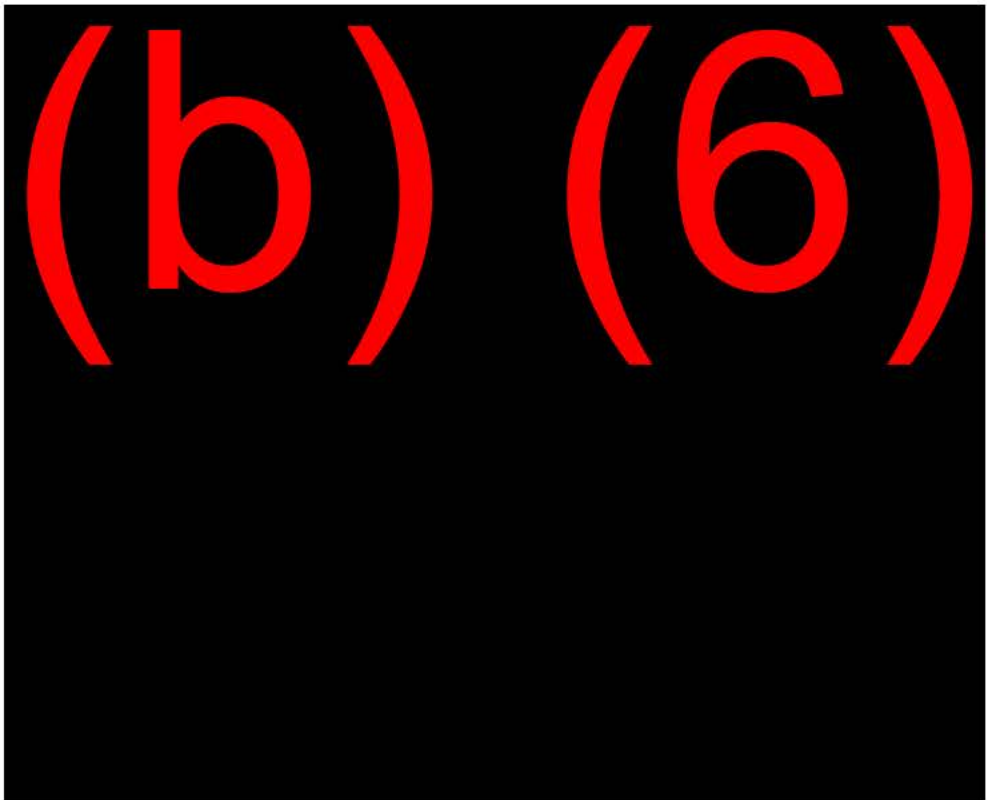
Community Outreach



The CES Environmental Services (CES) site is a former chemical recycling facility located at 4904 Griggs Road, Houston, Texas. Numerous chemical storage containers as well as chemical spills were discovered on-site. The United States Environmental Protection Agency (EPA) along with the Texas Commission on Environmental Quality (TCEQ) began cleaning up the site in September of 2014.

In November 2014, staff from the Texas Department of State Health Services (DSHS) assisted EPA in conducting a community outreach campaign to collect information about general environmental and public health concerns regarding the CES Environmental Services site. DSHS staff visited 137 homes and spoke with 47 residents during this community outreach campaign.

In September 2015, DSHS conducted a follow-up educational outreach campaign to visit with residents and discuss health concerns in the neighborhoods surrounding the CES site. DSHS staff went door-to-door to approximately 364 homes and spoke with 131 community members. After speaking with the residents, DSHS learned that many were concerned about the contaminants that had been stored on-site. DSHS found that residents wanted further details about the chemicals, particularly whether they present a potential human health risk. The purpose of this document is to provide residents with information about the contaminants that were found on-site.



CES On-Site Contaminants

- Arsenic
- Acetone
- Barium
- Benzene
- Bis(2-Ethylhexyl)Phthalate (also called Di(2-ethylhexyl)Phthalate [DEHP])
- Cadmium
- Carbon Disulfide
- Chromium
- 1,4-Dioxane
- Ethanol
- Ethylbenzene
- 4-Ethyltoluene
- Freon Compounds
- Heptane
- Lead
- Mercury
- Methyl Ethyl Ketone (also called 2-Butanone)
- Methyl Tert Butyl Ether
- Silver
- Toluene
- 1,2,4-Trimethylbenzene
- Xylenes

Based on their physical and chemical properties, the chemicals have been grouped into two categories: heavy metals and volatile organic compounds (VOCs) and are discussed in further detail below.

Heavy Metals

The term “heavy metal” is used for those metals with the potential to cause human or environmental toxicity. Heavy metals occur naturally in the earth’s crust and are deposited in the environment by natural occurrences such as volcanic eruptions and weathering. Once in the environment these metals can become concentrated as a result of human activities such as mining, industrial waste, domestic and agricultural uses, and vehicle emissions.



Some metals such as lead, mercury, and cadmium have no known benefit for the human body, while others are essential to human health. For example, copper, manganese, selenium, chromium, and molybdenum are all trace elements, which are important in the human diet. Some metals, such as aluminum, gold, lithium, and silver are used in medicines.



Because the body responds differently to various metals, it is important to know how a particular metal reacts to understand its potential for causing health effects. Exposure alone does not mean that health problems will occur. Health effects vary according to the metal in question, the total amount that gets into the body, the frequency of exposure, and how long you are exposed. The age of the person can also influence the risk. For example, young children are more at risk to the effects of lead exposure than adults. The exposure route is also important. Elemental mercury is relatively harmless if swallowed and also poorly absorbed through the skin, however if inhaled or injected, elemental mercury may have tragic effects. For instance, the inhalation of

mercury vapor can produce harmful effects on the nervous, digestive and immune systems, lungs and kidneys, and may be fatal.

Exposure to metals may occur through the environment, diet, medications, cosmetics, and in the course of work or play. One may also be exposed through customs or rituals that include a heavy metal. Fortunately, with most metals, once the exposure has been identified and stopped, the body will eliminate the metals naturally.

The heavy metals identified at the CES site include:

•Arsenic

•Barium

•Cadmium

•Chromium

•Lead

•Mercury

•Silver

Volatile Organic Compounds (VOCs)

Volatile organic compounds are a large group of carbon-based chemicals that easily evaporate into air at room temperature. VOCs originate from many natural and man-made sources and are present in most homes and workplaces.

There are thousands of different VOCs produced and used in our daily lives. Common VOCs include acetone, benzene, ethylene glycol, and formaldehyde. Many products that we have in our homes could potentially release VOCs. For example, some building materials such as carpets, adhesives, paints, upholstery fabrics and varnishes contain VOCs that can be slowly released over a period of time. Others include home and personal care products such as air fresheners, cleaning and disinfecting chemicals, and some cosmetics. Gasoline, kerosene, tobacco smoke, petroleum products, polishes, lubricants, and insecticides also contain VOCs. In addition, vapors from VOCs in contaminated soil and/or groundwater can get into indoor air by entering buildings through cracks and openings in crawl spaces or foundations.



VOCs can enter the body through three exposure routes (breathing, touching or swallowing). Whether or not a person will have health effects after exposure to VOCs depends on the toxicity of the chemical (the amount of harm that can be caused by contact with the chemical), how much of the chemical you were exposed too, how long you are exposed, how frequently you are exposed and did the chemical get into your body. For example, someone exposed to gas fumes while filling their car is less likely to have lasting health effects than someone who accidentally swallows a small amount of gasoline.

Differences in age, health condition, gender and exposure to other chemicals also can affect whether or not a person will have health effects. Short-term exposure to high levels of some VOCs can cause headaches, dizziness, light-headedness, drowsiness, nausea, and eye, and respiratory irritation. These effects usually go away after the exposure stops. VOCs leave our body quickly but repeated exposures to high levels may cause them to collect in our body. Some people do not appear to have any kind of reaction to “low” amounts of VOCs, while other people are more sensitive. For example, someone who has asthma may have more severe symptoms than others when exposed to fumes from VOCs. Additionally, young children and elderly may be more susceptible to irritation and illness from VOCs.



The VOCs identified at the CES site include:

- | | | |
|--|------------------|---|
| ●Acetone | ●1,4-Dioxane | ●Methyl Ethyl Ketone (also called 2-Butanone) |
| ●Benzene | ●Ethanol | ●Methyl Tert Butyl Ether |
| ●Bis(2-ethylhexyl)Phthalate (also called Di(2-ethylhexyl)Phthalate [DEHP]) | ●Ethylbenzene | ●Toluene |
| ●Carbon Disulfide | ●4-Ethyltoluene | ●1,2,4-Trimethylbenzene |
| | ●Freon Compounds | ●Xylenes |
| | ●Heptane | |

Site Odors

Although the contamination at CES was primarily contained on-site, residents reported concerns about odors coming from the site. Many voiced concerns about headaches, respiratory problems, itchy and watery eyes, and other allergy-type symptoms. The symptoms noted are relatively non-specific with multiple possible causes including allergies and environmental pollutants. As a result, DSHS cannot confirm whether the residents' health concerns were due to the odors coming off the CES site. However, DSHS staff noted the presence of odors during visits to the site and understands that odors can affect quality of life.

Summary

Since September 2014, EPA and TCEQ have been conducting the removal of chemicals from the site. During the 2015 visit, DSHS noted that community-wide concerns had decreased. Many residents stated that because the odors had been reduced due to the site cleanup, they were no longer concerned. DSHS recommends that if residents have health concerns related to this site that they speak with their personal physicians.

For additional information related to CES site activities, please visit CES Griggs Road Voluntary Cleanup Project at <http://www.cesgriggsrd.com/>

For additional information related to the contaminants that were found on site, please visit the Agency for Toxic Substances and Disease Registry at <http://www.atsdr.cdc.gov/toxprofiles/index.asp>.

For Additional information related to environmental odors, please visit The Agency for Toxic Substances and Disease Registry's Environmental Odors webpage at <http://www.atsdr.cdc.gov/odors/>.

Residents who would like additional information may contact:

Texas Department of State Health Services
Health Assessment and Consultation Program

1100 West 49th Street, MC 1964

Austin, Texas 78756

1-800-588-1248

<http://www.dshs.state.tx.us/epitox>

<https://www.dshs.state.tx.us/epitox/hat.shtm>.

